

In The Claims:

Please amend claims 1-13, 15-21 and 23 as follows:

1. (canceled)
2. (canceled)
3. (canceled)
4. (presently amended) ~~The A solar powered distillation system of claim 2,~~

comprising:

a solar powered distillation system including;

a basin; and

an extruded impermeable nonporous black silicone membrane for
containment, said membrane lining the basin, wherein the membrane is an
extruded silicone sheet cut, folded and adhesively attached to an inside surface of
the basin so as to provide containment of a material to be distilled and vapors
thereof that form during distillation.

5. (presently amended) A ~~The solar powered distillation system of~~
~~claim 2, comprising:~~

a solar powered distillation system including;

a basin; and

a molded impermeable nonporous black silicone membrane for

containment, said membrane lining the basin, wherein the membrane is ~~molded-silicone that has been~~ molded to line and form fit inside surfaces of the basin.

6. (presently amended) ~~The A solar-powered distillation system of claim 2,~~
comprising:

a solar powered distillation system including;

a basin; and

a sprayed-on impermeable nonporous black silicone membrane for

containment, said membrane lining the basin, wherein the membrane is sprayed-on silicone that adheres to and lines inside surfaces of the basin.

7. (presently amended) ~~The solar-powered distillation system of claim 4,~~
wherein the ~~silicone is black~~ basin includes an insulation layer.

8. (presently amended) ~~The A solar powered distillation system of claim 1,~~
comprising:

a basin ~~wherein the basin is~~ formed of an aluminum sided insulation sheet including an outside aluminum layer and an inside insulation layer bonded together, the aluminum layer being sufficiently thick to provide structural rigidity and durability as an outside surface of the basin; ~~and~~

~~the~~ a membrane for containment that lines the basin and covers the insulation layer inside the basin; and

adjustable legs attached to said basin, said adjustable legs for supporting and leveling the distillation system to optimize the solar powered distillation system efficiency.

9. (canceled)

10. (canceled)

11. (presently amended) The solar powered distillation system of claim ~~8~~ 10, further comprising:

a carbon filter attached to an inlet or outlet of said solar powered distillation system for removing various impurities.

12. (presently amended) ~~A~~ The solar powered distillation system comprising:

~~a basin formed of an aluminum sided insulation, the aluminum being sufficiently thick to provide structural rigidity and durability to the basin~~ of claim 11, wherein the membrane is comprised of extruded, molded or sprayed-on impermeable silicone.

13. (presently amended) The solar powered distillation system of claim 8 ~~12~~, wherein the ~~aluminum-sided insulation includes an~~ insulation layer is made of polyisocyanurate.

14. (previously presented) The solar powered distillation system of claim 13, wherein the aluminum is an aluminum layer that is bonded to the polyisocyanurate insulation layer to form an integral sheet with structural rigidity and strength.

15. (presently amended) The solar powered distillation system of claim 8 ~~14~~, ~~further comprising:~~

wherein the membrane is an extruded, sprayed-on, or molded impermeable membrane lining said basin.

16. (presently amended) ~~A~~ The solar powered distillation system of claim 4, wherein the basin includes an insulation layer coupled to, bonded or adhesively attached to an outer protective casing comprising:

~~adjustable legs attached to said solar powered distillation system for supporting and horizontally leveling the distillation system so that when material to be distilled is placed in the distillation system it is equally distributed across a containment floor of the distillation system.~~

17. (presently amended) The solar ~~powered distillation~~ system of claim 16, ~~further comprising:~~

~~a basin made of aluminum sided insulation and having said adjustable legs~~
~~attached thereto;~~

~~an extruded, molded, or sprayed on impermeable~~ wherein the membrane lining
~~said lines the basin and forming the~~ so as to form with the basin a containment floor and
containment sides of the basin.

18. (presently amended) ~~A The solar powered distillation system of claim 17,~~
further comprising:

~~a carbon filter for removing volatile organic compounds~~
adjustable legs attached to said solar powered distillation system for supporting
and horizontally leveling the basin so that when material to be distilled is placed in the
distillation system it is equally distributed across the containment floor of the basin.

19. (presently amended) ~~The solar powered distillation system of claim 18,~~
further comprising:

~~wherein the~~ a carbon filter for removing volatile organic compounds and couple to
an inlet port or an outlet port is a silver impregnated activated carbon filter.

20. (presently amended) ~~The solar powered distillation system of claim 19~~ 5,
~~wherein the carbon filter is coupled to an inlet house~~ basin includes an insulation layer.

21. (presently amended) ~~The solar powered distillation system of claim 6~~ 19,
~~wherein the carbon filter is coupled to an outlet house~~ basin includes an insulation layer.

22. (canceled)

23. (presently amended) A solar powered distillation system, comprising:

a basin for containment of a substance to be distilled, the basin including:

an outer protective shell made of a structurally rigid and durable material;

and

one or more layers of insulating material formed over and attached to an

inner surface of the outer protective shell; ~~and~~

an extruded, molded or sprayed-on impermeable, ~~substantially nonporous, silicone~~
membrane placed over and attached to the one or more layers of insulating material so as
to form a lining inside the basin ~~that is impermeable to liquid and vapor of a substance to~~
~~be distilled ; and~~

a transparent member for solar ray admission, the transparent member placed over
and coupled to the basin so as to form with the basin a solar evaporation chamber of the
solar powered distillation system.

24. (previously presented) The solar powered distillation system of claim 23,
wherein the membrane is an extruded silicone sheet that is cut, folded and adhesively
attached to the insulating material.

25. (previously presented) The solar powered distillation system of claim 23, wherein the membrane is molded silicone that has been molded to fit a shape of the insulating material.

26. (previously presented) The solar powered distillation system of claim 23, wherein the membrane is formed by spraying silicone over the insulating material.

27. (previously presented) The solar powered distillation system of claim 24, wherein the membrane is adhesively attached to the insulating material and sealed at corners of the basin with silicone.

Please add the following new claims 28 - 32:

28. (new) The system of claim 4, wherein the silicone is U.S. Food and Drug Administration (FDA) food grade approved.

29. (new) The system of claim 5, wherein the silicone is U.S. Food and Drug Administration (FDA) food grade approved.

30. (new) The system of claim 6, wherein the silicone is U.S. Food and Drug Administration (FDA) food grade approved.

31. (new) The system of claim 20, further comprising:

adjustable legs attached to said solar powered distillation system for supporting and horizontally leveling the distillation system so that when material to be distilled is placed in the distillation system it is equally distributed across a containment floor of the distillation system.

32. (new) The system of claim 21, further comprising:

adjustable legs attached to said solar powered distillation system for supporting and horizontally leveling the distillation system so that when material to be distilled is placed in the distillation system it is equally distributed across a containment floor of the distillation system.